

Reroute West side San Joaquin Valley drainage and transport and discharge into the Pacific Ocean

Category: (To be developed)

Resources Area: Water Quality, WQ-S-3

Related Options: WQ-S-1

Resources Issue: Salt within the Estuary negatively affects agriculture, industrial, and municipal uses of Delta water, and may negatively affect Delta (freshwater dependant) species. In particular, salts, pesticides, selenium, boron, and arsenic from San Joaquin agricultural drainage degrade water quality along the San Joaquin River and within the estuary. In addition, agricultural waste discharges from Delta Islands contain dissolved organic carbon that contributes to the creation of unwanted byproducts during the process of drinking water treatment when Delta source waters are diverted to municipal water supply users. The implementation of more stringent regulations on these byproducts requires advanced treatment processes at significant costs to local water agencies. Some recent studies identify Delta island drainage discharges as a source for more than 50% of the dissolved organic carbon measured at the project pumps. The more than 1500 discharge locations within the Delta make it difficult to control dissolved organic carbon at its source. There are related issues that may be partially addressed or impacted to some degree by this option. One issue is the re-introduction of these salts and other compounds into the ocean which may negatively affect marine species. Other related issues include improved aquatic resources through the removal of harmful constituents in the water but also a possible reduction in flow in the San Joaquin River which may cause an increase in water temperature which may negatively affect aquatic resources.

Discussion: The construction of a facility to intercept drainage from the West side, San Joaquin Valley, for transport and discharge into the Pacific Ocean would reduce the levels of contaminants in the San Joaquin River and estuary. Water quality in the Delta could be improved for Delta agriculture, aquatic resources, and project exports. It should be noted that, for ease of transport, it may be necessary to reduce the volume of the collected water through evaporation and the resulting brine to be discharged into the ocean would be at an even higher concentration. Comprehensive source control programs, which for Delta source waters could include elements such as this option, are often more cost effective and more efficient from a total resource consumption viewpoint.

Objectives addressed: Water Quality General and Specific 2

The collection of west side San Joaquin Delta drainage for discharge in the ocean raises the possibility of high levels of contaminants at the discharge point and this would require close review by experts in water quality and ocean ecosystems. If the transport system is located above ground, the project would require close review by experts in wildlife resources for possible impacts on wildlife and their habitats.

Assumptions:

- Assume the system will collect subsurface drainage but not rainfall.

- Adequate right-of-way could be acquired.

Key Feasibility Factors:

- Confirm an environmentally and socially acceptable route for the transmission system could be identified.
- Confirm the collected drainage to be discharged in the ocean is environmentally and socially acceptable.
- Confirm that no unacceptable changes in temperature will occur in the San Joaquin River through the action of collecting water that would otherwise have drained into the river.
- Confirm reduced flows in the San Joaquin River will not cause any other detrimental effects to aquatic resources.

Implementation Effects:

- The Water Quality TAC (WQTAC) estimated high benefits for water uses such as agriculture, municipal, and industrial uses (matrix WQ-S-3) in the WQTAC report. Medium benefits were estimated by the WQTAC for fisheries, recreation, and environmental uses since they did not have the specific expertise in these areas.

Most Likely Benefits:

- The quality of the water in the San Joaquin River and the estuary would be improved through reduced concentrations of salts, pesticides, selenium, boron, and arsenic from agricultural drainage water.

Other Possible Benefits:

- Reduced concentrations of organics which contribute to unwanted by-products during the treatment process of Delta source waters is also possible.
- Quality of the export water could be improved through coordinated discharge of the San Joaquin River discharge / drainage.

Most Likely Negative Impacts:

- Depending on the discharge location, some constituents of the drainage water could negatively impact marine organisms.

Other Possible Negative Impacts:

- The collection of San Joaquin drainage could result in lower flows in the San Joaquin River and increased water temperatures which could potentially be detrimental for the survival of juvenile salmon.

Possible Regulatory and Institutional Constraints:

- CEQA
- NEPA
- DFG Sec 1600 Permit
- Encroachment Permit

Other: A discharge into the ocean would probably involve comments and/or actions by agencies concerned with marine life such as the National Marine Fisheries Service (NMFS) and the Environmental Protection Agency (EPA).

References and Published Materials: Use Combined TAC Reference List.